

a fifth wheel head operatively coupled with the based frame, where the fifth wheel head is positionable fore and aft between first and second positions along the channel.

DESCRIPTION OF THE DRAWINGS

[0014] Operation of the invention may be better understood by reference to the following detailed description taken in connection with the following illustrations, wherein:

[0015] FIG. 1 is a perspective view of an automatic rolling fifth wheel hitch selectively secured with a load bed of a towing vehicle.

[0016] FIG. 2 is a perspective view of the automatic rolling fifth wheel hitch.

[0017] FIG. 3 is a partially exploded perspective view of the automatic rolling fifth wheel hitch.

[0018] FIG. 4 is a partially exploded view of a base frame and trolley of the automatic rolling fifth wheel hitch.

[0019] FIG. 5 is a perspective view of a trolley of the automatic rolling fifth wheel hitch.

[0020] FIG. 6 is a perspective view of the base frame of the automatic rolling fifth wheel hitch.

[0021] FIG. 7 is a partially exploded view of a portion of the automatic rolling fifth wheel hitch.

[0022] FIG. 8 is a top view of embodiments of a cam plate.

[0023] FIG. 9 is a top view of embodiments of a cam plate.

[0024] FIG. 10 is a top view of embodiments of a cam plate.

[0025] FIG. 11 is a graphical representation of change of angle versus travel distance for a cam path of the cam plate of FIG. 8.

[0026] FIG. 12 is a graphical representation of change of angle versus travel distance for a cam path of the cam plate of FIG. 9.

[0027] FIG. 13 is a graphical representation of change of angle versus travel distance for a cam path of the cam plate of FIG. 10.

[0028] FIG. 14 is a perspective view of embodiments of an automatic rolling fifth wheel hitch.

[0029] FIG. 15 is a partially exploded view of a base frame and trolley of the automatic rolling fifth wheel hitch.

[0030] FIG. 16 is a bottom view of the automatic rolling fifth wheel hitch of FIG. 14.

DETAILED DESCRIPTION

[0031] Reference will now be made in detail to exemplary embodiments of the present invention, examples of which are illustrated in the accompanying drawings. It is to be understood that other embodiments may be utilized and structural and functional changes may be made without departing from the respective scope of the invention. Moreover, features of the various embodiments may be combined or altered without departing from the scope of the invention. As such, the following description is presented by way of illustration only and should not limit in any way the various alternatives and modifications that may be made to the illustrated embodiments and still be within the spirit and scope of the invention.

[0032] An automatic rolling fifth wheel hitch 100 is shown in FIGS. 1-3. The automatic rolling fifth wheel hitch 100 may attach to a load bed 104 of a towing vehicle 108 in any appropriate manner. By way of a non-limiting example, a pair of rail members 112 may be selectively attached to the

load bed 104 in any appropriate manner, including, without limitation utilizing fasteners, securement devices or the like. The rail members 112 may extend transversely across the load bed 104 as shown in FIG. 1. The rail members 112 may be configured to attach a standard fifth wheel hitch as well as the automatic rolling fifth wheel hitch 100 or may be specifically configured for the automatic rolling fifth wheel hitch 100. The automatic rolling fifth wheel hitch 100 may be selectively attached to the rail members 112 in any appropriate manner; such as by way of a non-limiting example via fasteners (not shown). Any appropriate configuration of fasteners may be used—the present teachings are not limited to a specific configuration of fasteners.

[0033] The automatic rolling fifth wheel hitch 100 may include a base frame 120 selectively secured to the rail members 112. The base frame 120 may include at least one bracket 124, including, without limitation two pairs of brackets 124 attached thereto. The brackets 124 may attach with the rail members 112 through the use of fasteners (not shown). Specifically, each of the brackets 124 may include a leg 128 attached thereto in any appropriate manner, including, without limitation being integrally formed therewith. The legs 128 may be insertable into the rail members 112. Fasteners may then be inserted into and through the legs 128 and rail members 112 selectively securing the automatic rolling fifth wheel hitch 100 with the rail members 112 and the load bed 104 of the towing vehicle 108. This arrangement may make it easy to remove the automatic rolling fifth wheel hitch 100 when not needed.

[0034] The automatic rolling fifth wheel hitch 100 may include a trolley 132 operatively engaged with the base frame 120 as described in more detail below. The automatic rolling fifth wheel hitch 100 may further include a fifth wheel head 136 pivotally attached with the trolley 132. The fifth wheel head 136 may be of any appropriate configuration such that a king pin of a towed vehicle may operatively engage with the fifth wheel head 136 resulting in the towing vehicle 108 being capable of towing the towed vehicle. By way of a non-limiting example, the fifth wheel head 136 may be of a configuration as shown and described in any one of: U.S. patent application Ser. No. 13/190,878 (Publication No. 20120018979) entitled “Fifth Wheel Hitch Isolation System,” filed Jul. 26, 2011; U.S. patent application Ser. No. 13/190,919 (Publication No. 20120018978) entitled, “Fifth Wheel Hitch Retention System,” filed Jul. 26, 2011; and U.S. patent application Ser. No. 13/191,009 (Publication No. 20120018977) entitled “Fifth Wheel Hitch Skid Plate Cover,” filed Jul. 26, 2011, all of which are hereby incorporated by reference. Further, the fifth wheel head 136 may be of a configuration as shown and described in all of the applications incorporated by reference immediately above. However, the present teachings are not limited to these disclosed configurations of the fifth wheel head 136. Any appropriate configuration may be used.

[0035] As shown in FIG. 3, the fifth wheel head 136 may be pivotally attached with the trolley 132 through use of a pivot shaft 140. The fifth wheel head 136 may be attached with the pivot shaft 140 in any appropriate manner. By way of a non-limiting example, the fifth wheel head 136 may be attached with the pivot shaft 140 through the use of fasteners, welding, or the like. The fifth wheel head 136 attached with the pivot shaft 140 may result in the fifth wheel head 136 being pivotable with respect to the base frame 120. The pivoting of the fifth wheel head 136 may allow the towed